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(71) Anmelder (für alle Bestimmungsstaaten mit Ausnahme von
US): **OSRAM OPTO SEMICONDUCTORS GMBH &
CO. OHG** [DE/DE]; Wernerwerkstrasse 22, 93049 Re-
gensburg (DE).

(72) Erfinder; und

(75) Erfinder/Anmelder (nur für US): **HÄRLE, Volker**
[DE/DE]; Eichenstrasse 35, 93164 Laaber (DE). **HAHN,**
Berthold [DE/DE]; Am Pfannenstiel 2, 93155 Hemau
(DE). **LUGAUER, Hans-Jürgen** [DE/DE]; Tannenweg
14, 93173 Wenzelbach (DE). **BOLAY, Helmut** [DE/DE];
Blumenstrasse 36, 93186 Pettendorf (DE). **BADER,**
Stefan [DE/DE]; Deutschherrnweg 2, 93053 Regensburg
(DE).

(74) Anwalt: **EPHING HERMANN & FISCHER GBR;**
Postfach 12 10 26, 80034 München (DE).

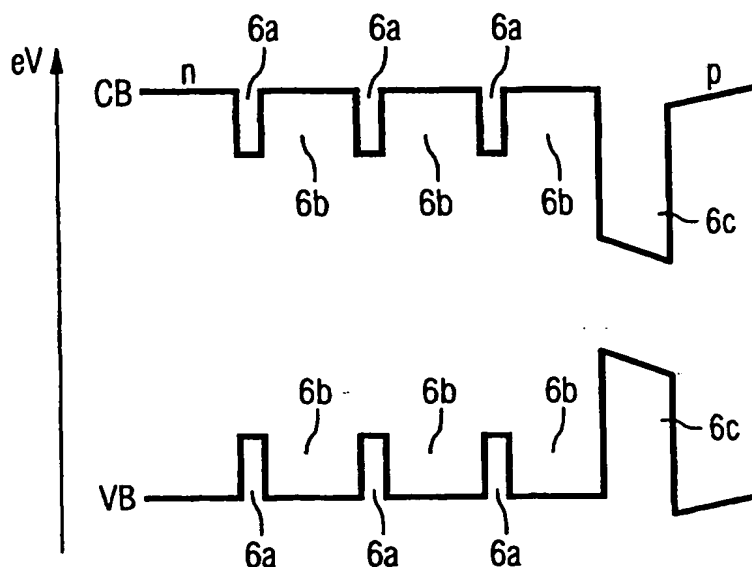
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(54) Title: **OPTICAL SEMICONDUCTOR DEVICE COMPRISING A MULTIPLE QUANTUM WELL STRUCTURE**

(54) Bezeichnung: **OPTISCHE HALBLEITERVORRICHTUNG MIT MEHRFACH-QUANTENTOPF-STRUKTUR**



(57) Abstract: The invention relates to an optical semiconductor device comprising a multiple quantum well structure, in which well layers and barrier layers consisting of different types of semiconductor layers are stacked alternately on top of one another. The invention is characterised in that the well layers (6a) have a first composition, based on a nitride semiconductor material with a first electron energy and the barrier layers (6b) have a second composition based on a nitride semiconductor material with a higher electron energy in relation to the first electron energy. An active radiative quantum well layer (6c) is located downstream of said layers in the epitaxial direction and the essentially non-radiative well layers (6a) positioned upstream, together with the barrier layers (6b) form a superlattice for said active quantum well layer.

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Abstract

Optical semiconductor device with multiple quantum well structure

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An optical semiconductor device with a multiple quantum well structure, in which well layers and barrier layers comprising various types of semiconductor layers are alternately layered in which device well layers (6a) of a first composition based on a nitride semiconductor material with a first electron energy and barrier layers (6b) of a second composition of a nitride semiconductor material with electron energy which is higher in comparison with the first electron energy are provided, followed, seen in the direction of growth, by a radiation-active quantum well layer (6c), for which the essentially non-radiating well layers (6a) and the barrier layers (6b) arranged in front form a superlattice.

Figures 1a and 1b
